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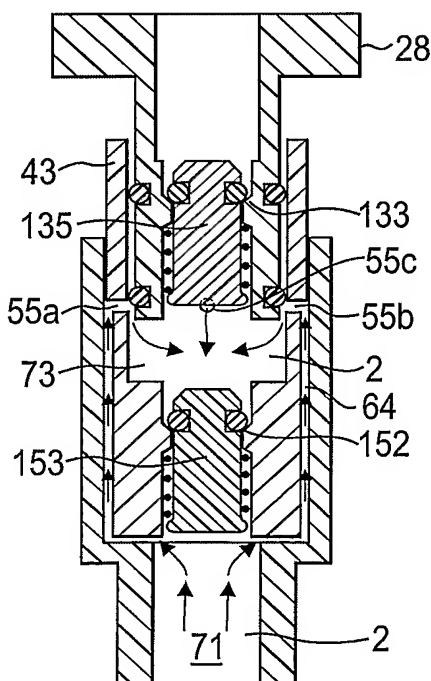
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(54) Title: A METERING PUMP SYSTEM



(57) Abstract: A metering pump system for metering and pumping a metered volume of a fluid product (2) has a storage chamber (57) for storing the fluid product in; a metering chamber (73) which is movable between a contracted state and an expanded state, the system adapted such that movement of the metering chamber from its contracted state to its expanded state results in the metering chamber being placed in fluid communication with the storage chamber to enable the metering chamber to receive an excess volume of the fluid product comprising the metered volume and a surplus volume from the storage chamber and movement of the metering chamber from its expanded state to its contracted state causes the metered volume to be pumped from the metering chamber; a bleed mechanism (55a, 55b) for bleeding the surplus volume from the metering chamber as it moves from the expanded state to the contracted state; and an inlet valve mechanism (150) which is disposed between the storage and metering chambers and movable between an open state, to permit flow of the fluid product from the storage chamber to the metering chamber through the inlet valve mechanism, and a closed state, to prevent flow of the fluid product between the storage and metering chambers through the inlet valve mechanism. The inlet valve mechanism is adapted so that it remains in its closed state except when the metering chamber moves from the contracted state to its expanded state.

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,*

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